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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,268	11/19/2001	Aruna V. Ramanan	POU999077US1	6335
46369	7590	09/09/2005	EXAMINER	
HESLIN ROTHENBERG FARLEY & MESITI P.C.			DAVIS, CYNTHIA L	
5 COLUMBIA CIRCLE			ART UNIT	
ALBANY, NY 12203			PAPER NUMBER	
			2665	
DATE MAILED: 09/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,268

Applicant(s)

RAMANAN ET AL.

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-2, 6-8, 10-11, 15-17, 19-21, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Newton's Telecom Dictionary.

Regarding claim 1, selecting a source node-destination node (S-D) group with common starting and ending sets of links from the network of interconnected nodes; selecting shortest routes between at least some S-D nodes of the group so that: selected routes substantially uniformly fan out from the source nodes to a center of the network and fan in from the center of the network to the destination nodes; global balance of routes passing through links that are at the same level of the network is achieved is disclosed in figure 16 (showing routes that fan out and in) and column 10, lines 21-33 (listing routes between S and D) of Huang. That the routes are static path and source based is missing from Huang. However, Newton's Telecom Dictionary discloses on page 779, right column, in the definition of Static Routing, that it is known that routing may be done either statically (as applicant claims) or dynamically (as is done in Huang). It would have been obvious to one skilled in the art at the time of the invention to implement the method of Huang in a static routing environment. The

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motivation would be to use less costly routers, save time on delays caused by decision making processes in the routers, and enhance security in the system (see Newton).

Regarding claim 10, means for selecting a source node-destination node (S-D) group with common starting and ending sets of links from the network of interconnected nodes; means for selecting shortest routes between at least some S-D nodes of the group so that: selected routes substantially uniformly fan out from the source nodes to a center of the network and fan in from the center of the network to the destination nodes; global balance of routes passing through links that are at the same level of the network is achieved is disclosed in figure 16 (showing routes that fan out and in) and column 10, lines 21-33 (listing routes between S and D) of Huang. That the routes are static path and source based is missing from Huang. However, Newton's Telecom Dictionary discloses on page 779, right column, in the definition of Static Routing, that it is known that routing may be done either statically (as applicant claims) or dynamically (as is done in Huang). It would have been obvious to one skilled in the art at the time of the invention to implement the method of Huang in a static routing environment. The motivation would be to use less costly routers, save time on delays caused by decision making processes in the routers, and enhance security in the system (see Newton).

Regarding claim 19, at least one computing unit adapted to select a source node-destination node (S-D) group with common starting and ending sets of links from the network of interconnected nodes, said at least one computing unit being further adapted to select shortest routes between at least some S-D nodes of the group so that: selected routes substantially uniformly fan out from the source nodes to a center of the

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network and fan in from the center of the network to the destination nodes; global balance of routes passing through links that are at the same level of the network is achieved is disclosed in figure 16 (showing routes that fan out and in) and column 10, lines 21-33 (listing routes between computing nodes S and D) of Huang. That the routes are static path and source based is missing from Huang. However, Newton's Telecom Dictionary discloses on page 779, right column, in the definition of Static Routing, that it is known that routing may be done either statically (as applicant claims) or dynamically (as is done in Huang). It would have been obvious to one skilled in the art at the time of the invention to implement the method of Huang in a static routing environment. The motivation would be to use less costly routers, save time on delays caused by decision making processes in the routers, and enhance security in the system (see Newton).

Regarding claim 20, a computer program storage device readable by a machine is disclosed in column 5, line 11 of Huang. Selecting a source node-destination node (S-D) group with common starting and ending sets of links from the network of interconnected nodes; selecting shortest routes between at least some S-D nodes of the group so that: selected routes substantially uniformly fan out from the source nodes to a center of the network and fan in from the center of the network to the destination nodes, global balance of routes passing through links that are at the same level of the network is achieved is disclosed in figure 16 (showing routes that fan out and in) and column 10, lines 21-33 (listing routes between S and D) of Huang. That the routes are static path and source based is missing from Huang. However, Newton's Telecom Dictionary discloses on page 779, right column, in the definition of Static Routing, that it

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is known that routing may be done either statically (as applicant claims) or dynamically (as is done in Huang). It would have been obvious to one skilled in the art at the time of the invention to implement the method of Huang in a static routing environment. The motivation would be to use less costly routers, save time on delays caused by decision making processes in the routers, and enhance security in the system (see Newton).

Regarding claims 2, 11, and 21, repeating said selecting of the S-D group for a plurality of S-D groups from the network, and for each S-D group, selecting the shortest routes between S-D nodes of the group so (a), (b) and (c) are met, wherein links within the network that are at same level of the network have a substantially balanced number of routes passing therethrough and are locally balanced is disclosed in Huang, column 9, lines 63-64 and figure 16 (showing the same number of routes going through each node).

Regarding claims 6, 15, and 25, repeating said selecting of the S-D group for each S-D group of the network, and wherein said selecting comprises substantially equalizing load on links within the network at a same level of network considering the selected routes passing through said links by the multiple S-D groups is disclosed in column 8, lines 1-5 of Huang.

Regarding claims 7, 16, and 26, selecting the shortest routes without prior knowledge of the type of data packages to be forwarded on said routes is disclosed in Huang, column 5, lines 34-38 (the system may be used for many different types of traffic; the type does not affect the system's functions).

Regarding claims 8, 17, and 27, selecting an S-D group with least one intermediate switch board (ISB) disposed between the common starting and ending sets of links of the network of interconnected nodes is disclosed in figure 16 of Huang (showing intermediate nodes between the start and end nodes).

3. Claims 3-5, 12-14, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Kahale.

Regarding claims 3, 12, and 22, said selecting comprises exploring the network from a source node until a destination node is reached, and for each S-D pair of the group, prioritizing output ports at each stage based on least global weight of links on a node switch board (NSB), and by rank ordering output ports based on next level usage before prioritizing based on global weight of links on an intermediate switch board (ISB) is missing from Huang. However, Kahale discloses in column 2, lines 20-23, a system that prioritizes links based on their weights and schedules them accordingly (a scheduling system is the same as a route building system, it decides which packets are taking which route). It would have been obvious to one skilled in the art at the time of the invention to use the scheduling method of Kahale in the system of Huang. The motivation would be to have the system respond to transmission conditions in the transmission medium (Kahale, column 2, lines 10-13).

Regarding claims 4, 13, and 23, building the shortest routes between S-D nodes of the S-D group employing said prioritizing and said rank ordering is missing from Huang. However, Kahale discloses in column 2, lines 20-23, a system that prioritizes links based on their weights and schedules them accordingly (a scheduling system is

the same as a route building system, it decides which packets are taking which route). It would have been obvious to one skilled in the art at the time of the invention to use the scheduling method of Kahale in the system of Huang. The motivation would be to have the system respond to transmission conditions in the transmission medium (Kahale, column 2, lines 10-13).

Regarding claims 5, 14, and 24, said rank ordering comprises rank ordering output ports of the ISB such that pods with less traffic have a higher rank, and if more than one output port has a same rank, reordering the ranking so that an output port with a lower global weight on its link receives higher priority is missing from Huang. However, Kahale discloses in column 2, lines 20-24, the lowest weight links being scheduled first. It would have been obvious to one skilled in the art at the time of the invention to rank the lowest weight has higher priority. The motivation would be to route the traffic in the lowest-cost manner available.

4. Claims 9, 18, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Cwilich. Selecting said shortest routes by employing cross-connected links within the ISB that are disjoint is missing from Huang. However, Cwilich discloses in column 25, lines 36-40 and 46-48, a service and restoration path being disjoint from one another. It would have been obvious to one skilled in the art at the time of the invention to use disjoint paths in the system of Huang. The motivation would be to have failures on one of the paths not affect the other paths.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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